

What is claimed is:

1. A paste application apparatus comprising:

a container storing paste material and having a nozzle for applying the  
5 paste material discharged therefrom to a substrate;

a stage adapted to mount the substrate thereon;

a holding mechanism adapted to hold the container detachably;

a moving mechanism enabling at least either one of the stage and the  
holding mechanism to move so that the nozzle of the container held by the  
10 holding mechanism and the substrate can move relatively to each other along  
a surface of the substrate;

a discharge volume control unit connected to the container held by the  
holding mechanism through a pipe, for controlling a discharge volume of the  
paste material discharged from the nozzle;

15 a delivery mechanism adapted so as to transfer the container to and  
from the holding mechanism; and

a controller configured to control the transferring operation of the  
delivery mechanism.

20 2. A paste application apparatus as claimed in claim 1, further  
comprising an attaching and detaching mechanism adapted to connect and  
disconnect the container to and from the discharge volume control unit,

wherein the controller controls the connecting-and-disconnecting  
operation of the attaching and detaching mechanism.

25 3. A paste application apparatus as claimed in claim 1, wherein  
the controller controls the delivery mechanism to load a container

filled up with the paste material to the holding mechanism while receiving an empty container from the holding mechanism.

4. A paste application apparatus as claimed in claim 1, wherein

the container is a cylindrical container having an end where the nozzle is arranged coaxially, the cylindrical container having a container-step part having an abutment surface directing downwardly and an engagement part having an engagement surface directing upwardly;

the holding mechanism includes a grasping part having a holder-step part for contact with the abutment surface of the container-step part to grasp the cylindrical container in a diametral direction thereof and a stopper for engaging the engagement surface of the engagement part to make the abutment surface abut on the holder-step part; and

the pipe is provided with a connecting part detachable to the cylindrical container in an engaging direction of the stopper.

5. A paste application apparatus as claimed in claim 1, wherein the delivery mechanism is formed so as to carry two containers simultaneously.

6. A paste application apparatus as claimed in claim 5, wherein the delivery mechanism is formed so as to carry the container filled up with the paste material and the empty container separately.

7. A paste application apparatus as claimed in claim 1, further comprising a stocker for holding the container, the stocker being either arranged in the vicinity of the stage or formed in the stage itself.

8. A paste application apparatus as claimed in claim 1, wherein the controller is constructed, on a basis of consumption of the paste material in the container, so as to judge the necessity of the transferring operation of the containers by the delivery mechanism.

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9. A paste application apparatus as claimed in claim 1, wherein the controller is adapted to count the number of substrates that have been applied with the paste material, and

10 the controller is constructed so as to judge an exchange time for the container when the number of substrates counted amounts to a predetermined number, and successively start the transferring operation of the containers by the delivery mechanism.

15 10. A paste application apparatus as claimed in claim 1, further comprising a supply device for supplying a container storing the paste material therein and a disposal device where a used container is scrapped, wherein the delivery mechanism receives the container storing the paste material from the supply device and scraps the used container into the disposal device.

20 11. A paste application apparatus as claimed in claim 10, wherein the supply device includes:

a freezer for keeping the container storing the paste material therein, in cold storage; and

25 a constant temperature bath that receives the container storing the paste material therein from the freezer and preserves the container at a temperature ranging from 20 °C to 25 °C.

12. A paste application apparatus as claimed in claim 1, wherein the container stores an ultraviolet cure paste material therein.